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TITLE: Relationship management in an E-commerce application framework

Brief Summary Text (2):

The present invention relates to software for interacting with a user over a network and more particularly to interacting with a client user in an e-Commerce environment.

Detailed Description Text (17):

The development of graphical user interfaces began to turn this procedural programming arrangement inside out. These interfaces allow the user, rather than program logic, to drive the program and decide when certain actions should be performed. Today, most personal computer software accomplishes this by means of an event loop which monitors the mouse, keyboard, and other sources of external events and calls the appropriate parts of the programmer's code according to actions that the user performs. The programmer no longer determines the order in which events occur. Instead, a program is divided into separate pieces that are called at unpredictable times and in an unpredictable order. By relinquishing control in this way to users, the developer creates a program that is much easier to use. Nevertheless, individual pieces of the program written by the developer still call libraries provided by the operating system to accomplish certain tasks, and the programmer must still determine the flow of control within each piece after it's called by the event loop. Application code still "sits on top of" the system.

Detailed Description Text (60):

It includes components such as: Job scheduler Software distribution Error monitor Data backup and restore Help desk Security administration High-Availability Hardware management Performance monitors Startup/shutdown procedures Report management tool Disaster Recovery Network Monitoring Tools Cross Platform Management Tools

Detailed Description Text (108):

Both the core services and the delivery vehicle extensions require support in all three environments. The cube illustrates that different delivery vehicles may require different extensions to a core development or operations environment, not just the execution architecture. A mission-critical high-volume transaction delivery vehicle may require special performance tuning tools in the development architecture, as well as real-time monitoring tools in the operations architecture.

Detailed Description Text (165):

G1. The client maintains their applications internally and the IT department has the necessary resources, organizations and processes to maintain a Client Server application. Introduction of a Client Server application to a company's production environment can require a great deal of change to the Execution, Operations and Development architectures required to develop, run and support the production systems. Before a Client Server application is developed, it is important that the client identify how a system of this type will fit within the company's strategic technology plan.

Detailed Description Text (178):

G1. The Client has the resources, organizations and processes necessary for the development and operation of a Host based application. Before a Host based application is developed, it is important that the client identify how a system of this type will fit within the company's strategic technology plan.

Detailed Description Text (324):

A few specific techniques to consider are detailed here: 1. Personal Acknowledgment--In the case of a personal acknowledgment, the rule set may be well defined and the user is not even aware that it exists. There is also no way for the user to alter or customize the content. An example of the personal acknowledgment would be a simple greeting that says "Hello <User>, Good Afternoon". The rule is based on time of day, as determined by the system time. Once the user enters the site, the rule is executed. Based on the result to the system would greet the user with a 'Good Morning, Good Afternoon, or Good Evening'. In this case, the rule is set and does not get altered. 2. Content Filtering--Content Filtering works very similar to personal acknowledgment, but it allows the user to alter the content they wish to see. The rule set is not as clearly defined as personal acknowledgment, rather a shell of the rules is in place and the user has the ability to customize the attributes to the rules. Content Filtering allows the user to define what it is they wish to see on their page. On a site, the user is able to select what information is important for them to view. Users can select whether or not they want to see information about sports, weather, U.S. news, World News, states, and many more. Whichever options the user selects, are the types of stories that will be displayed on their personalized page. The user should also be given the option to change their options at any time. In this case, the rule shell is defined, however the attributes are changeable by the user at any time. 3. Custom Interface--The Custom Interface example takes the concepts of Content Filtering one step farther. In this case, the user not only has the option of setting the content attributes, but they are also able to set the page attributes as well. By giving the user the ability to set the page attributes, they set up the layout of their page so the items are what they want to see, and where they want to see them. Here, the same form of the rule shell is used, but the user also gets many other options that allow them to set up the page as they desire. 4. Personal Assistant--The idea of a personal assistant has been popularized by Microsoft in their addition of the personal assistant to Microsoft Office. If one begins to have trouble or is unable to figure out what to do, the Personal Assistant is there to help. This type of interface is different from that of the other types mentioned. In this example, the system is designed to be a learning system and is situation based. That is, it is designed to monitor what actions the user is performing and trying to determine if the user is lost. If the system notices the user is continually returning to the section of the site designed to change their address, but has not been successful in getting their address changed, then the personal assistant would be launched. The assistant would try to help the user follow the needed steps to change their address successfully. This type of site is not built upon hard-set rules, but rather is designed to learn as much as possible about the user as it goes.

Detailed Description Text (392):

Learning System (Neural Network)--The premise behind the learning system is that it will monitor the user's actions and perform differently depending upon what the system learns from the user actions. This technique is a complex combination of rules and relationships using the user's interactions with the site to increase the knowledge of the enterprise about the customer. The best way to describe this is with a definition of neural networks. A neural network is a system of programs and data structures approximating the operation of the human brain. Typically, a neural network is initially "trained" or fed large amounts of data and rules about data relationships (for example, A grandfather is older than a person's father is). A program can then instruct the network how to behave in response to an external stimulus, or it can initiate activity on its own based on the user's actions.

Detailed Description Text (437):

FIG. 24 illustrates a flowchart for a method 2400 for administrating an e-Commerce system on a network. Operation of entities is monitored in operation 2402. Entities include server processes, disk space, memory availability, CPU utilization, access time to a server, and/or a number of connections in an e-Commerce system. In operation 2404, items including merchandising content, currency exchange rates, tax rates, and/or pricing in the e-Commerce system are updated at predetermined intervals. In addition, external data stored separately from the e-Commerce system is synchronized in operation 2406 with internal data stored on the e-Commerce system. Contact information received from users of the e-Commerce system is also managed in operation 2408. The items are altered based on profiles of the users of the e-Commerce system in operation 2410.

Detailed Description Text (441):

System Monitoring Facilities 2500

Detailed Description Text (442):

The health of a system can be easily maintained by putting in place monitoring facilities and procedures for capturing the system's electronic vital signs. Far too often the users of a system are the first to know of system problems while the administrators are the last to know. This can be prevented by creating automated monitoring facilities for server processes, disk space, memory, CPU utilization, access time, number of connections, and other electronic vital signs. The complexity of these facilities is open for debate. In addition to online monitoring facilities, robust logging, audit trails, and archiving capabilities should be included. These will aid in analysis and forecasting of system needs.

Detailed Description Text (454):

In addition to the monitoring and maintenance facilities, services should be considered to stabilize performance. Providing the system is scalable, load balancing services would aid in initiating and stopping extra processes as utilization levels vary. Processes could be started to handle additional requests during peak periods providing the user with a consistent level of performance. This is extremely important in periods of peak usage. A good example is the fluctuation of the average response times of some of the current electronic trading systems during market surges. Times during a market surge were 2-3 minutes above their average 6-10 second response time.

Detailed Description Text (456):

Internet users are quick to point out mistakes and opinions for improvements. Sites will receive sporadic emails from users experiencing a variety of emotions about the site. Users may sour quickly if actions are not taken or noted to items pointed out. Responses to user feedback should be monitored to ensure that each message from a user is responded to in some manner.

Detailed Description Text (596):

Implementation Considerations Separation of duties is necessary to assure proper controls are both implemented and monitored. Security administration (adding/deleting users, updating system configurations, etc.) should be performed by a different person than security auditing (review of logs, running OS security scans, etc.) A security policy is necessary to provide direction on what assets should be secured and what threats are of most concern. Security standards are necessary to assure a consistent, secure configuration across multiple platforms and applications. Administration procedures should be developed and implemented that clearly outline the procedures administrators must follow for user administration and system/security administration. Appropriate guidelines should be included with each procedure on the time required to perform it, and that time should be agreed to by the administrator and their manager. Testing procedures and guidelines should be created for developing and maintaining application code and architecture configuration. Training programs should be outlined for those individuals fulfilling security roles in the architecture. User training information should also be developed and distributed in an easy to read and implement manner. Special attention should be paid to the legal requirements for any disclaimer or policy statements which must be presented to the customer when accessing the site.

Detailed Description Text (602):

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Detailed Description Text (630):

Implementation Considerations Separation of duties is necessary to assure proper controls are both implemented and monitored. Security administration (adding/deleting users, updating system configurations, etc.) should be performed by a different person than security auditing (review of logs, running OS security scans, etc.) A security policy is necessary to provide direction on what assets should be secured and what threats are of most concern. Security standards are necessary to assure a consistent, secure configuration across multiple platforms and applications. Administration procedures should be developed and implemented that clearly outline the procedures administrators must follow for user administration and system/security administration. Appropriate guidelines should be included with each procedure on the time required to perform it, and that time should be agreed to by the administrator and their manager. Testing procedures and guidelines should be created for developing and maintaining application code and architecture configuration. Training programs should be outlined for those individuals fulfilling security roles in the architecture. User training information should also be developed and distributed in an easy to read and implement manner. Special attention should be paid to the legal requirements for any disclaimer or policy statements which must be presented to the customer when accessing the home banking site.

Detailed Description Text (649):

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